R E M A R K S

The claims have been amended by canceling claims 1-20, and adding new claims 21-29. Claims 21-29 remain in the application. Reconsideration of this application is respectfully requested.

The specification has been amended to correct a number of typographical errors.

Generally, this invention is directed to a radio frequency (RF) network that provides data communication via wireless links to a number of wireless devices. These wireless devices, called physical end nodes, communicate over wireless links with access points that are connected to a wired data network. The RF network uses the well-known Internet protocol to direct data packets to the physical end nodes from other devices in the RF network.

Each access point in the RF network can provide communication services to a plurality of physical end nodes. To reduce the number of Internet protocol addresses needed to route the data packets to the physical end nodes, a number of physical end nodes at an access point can share an Internet protocol address. This shared address is called a virtual address since it does not correspond to a specific physical end node.

When a virtual address is used, an identifier that identifies the specific physical end node device that is the destination for the data packet is placed in the user data portion of the data packet. As the data packet is routed

through the RF network, the virtual address is used to route the data packet to the access point serving the destination physical end node. The access point then broadcast the data packet over the RF link. The destination physical end node is then able to identify the data packet as destined for itself by looking at the identifier in the user data portion of the packet. In this way the present invention is able to increase the number of physical end nodes served by the RF network without changing the Internet protocol used for routing in the RF network.

The new claims are summarized as follows:

New claim 21 is directed to a method of sending an IP packet to a physical end node. The IP packet comprises an virtual Internet protocol address that corresponds to a plurality of physical end nodes being served by one access point and a data field. The data field comprises a destination identification that corresponds to one of the physical end nodes served by the access point and user data. The IP packet is created, sent over the RF network to the access point and transmitted by the access point. Each of the plurality of physical end nodes then decodes the user data field of the IP packet and determines whether the IP packet is destined for it. This claim is supported in the by FIG. 2 and FIG. 3 and by the specification on page 5 line 17 to page 6 line 3.

Claims 22-27 add additional steps or limitations to the method of claim 21. Claim 22 adds the limitation to claim 1 that each of the physical end nodes determines whether the packet is destined for it by comparing its own identity to the

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destination identification in the packet. Claim 23 adds that the destination physical end nodes process the packet after the determination is made. Claim 24 adds the step of the physical end nodes that are not the destination for the packet determining that the packet is not for them. Claim 25 adds to claim 24 that the physical end nodes that are not the destination ignore the packet. Claim 26 adds to claim 21 that the sending of the packets in the RF network is accomplished by use of the Internet protocol Dependant claims 22-26 find support in the specification on page 5 line 17 to page 6 line 3.

Claim 27 adds to the claim 21 that the access point transmits the packet using a wireless link. Claim 27 finds support on page 2 line 32 of the specification.

Claim 28 is directed to an RF network. The RF network comprises a wired network, an access point connected to the wired network that is operable to communicate via a wireless link and a plurality of physical end nodes communicating with the access point. The plurality of physical end nodes share a virtual Internet protocol address and have separate identifications. Claim 28 finds support in FIG. 1 and in the specification on page 2 lines 16-35 and on page 4 lines 5-15.

Claim 29 adds to the RF network of claim 29 a second access point connected to the wired network and a second plurality of the physical end nodes. The second access point is operable to communicate over a second wireless link. The second plurality of physical end nodes share a second virtual Internet protocol address and have separate identifications. Claim 29 finds

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support in FIG. 1 and in the specification on page 2 lines 16-35 and on page 4 lines 5-15.

Claim Rejections - 35 U.S.C. § 102(e):

Claims 1-9 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Norman, et al (USPN 6,049,533). Claims 1-9 no longer remain in this application so this objection is no longer relevant. The contents of Norman will be discussed below with regard to the 103(a) rejection.

Claim Rejections - 35 U.S.C. § 103:

Claims 10-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Norman, et al. (USPN 6,049,533) in view of Huang, et al (USPN 6,041,358).

Norman is directed to a wireless network that provides packet data communication services to a number of mobile radios through the use of access points. The access points are connected to a wired network that comprises a number of token rings connected by bridges (FIG. 2). The packets sent through the wireless network contain a source address, destination address, source routing field and data (FIG. 8). The destination field list the address of the device for which the data packet is destined. This address corresponds to a single device in the wireless network (col. 12 line 51-52). Norman

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does not teach the sharing of a destination address among a number of devices.

The source routing field of the data packet lists the path to be used to send the data packet across the wireless network. It consists of token ring and bridge identifiers (col. 12 lines 31-33 and col. 12 lines 53-57). The source routing information does not direct the packets to a particular device or address. Instead, the source routing information directs the packets to the token ring on which the destination can be reached (col. 11 lines 6-9).

Huang teaches of an ATM network that can be used to provide virtual local area networks (VLANs). The network of Huang comprises a plurality of subnetworks connected together in a hypercube topology (FIG. 4-5, col. 7 lines 30-47). Each of the subnetworks can contain a number of base stations that can provide communication service to a plurality of mobile terminals (col. 8 lines 8-31). The base stations and mobile terminals are grouped together as VLANs (col. 8 lines 8-21).

As a mobile terminal moves, it may be handed off to a base station that is not a member of the same VLAN. However, the mobile terminal remains a member of its original VLAN (col. 8 lines 22-36). The ATM network is set up so that the mobile terminal still appears to be part of the same VLAN even through it is no longer directly connected to a base station in the network. Hence the name "virtual" LAN.

The packets sent in the ATM network comprise a VLAN header, an LAN emulation header and a MAC frame (FIG. 8). The VLAN header includes an identifier of the VLAN of the device that sent the packet and control information such packet lifetime duration etc. (col. 11 lines 51-62). The LAN emulation header is not described. Nowhere in Huang is the use of the Internet protocol or Internet protocol addressing mentioned.

New claim 21 is distinguishable over the cited references for at least the reason that it involves creating an IP packet that contains a virtual IP address corresponding to multiple physical end nodes served by an access point. As discussed above Norman does not teach the sharing of a destination address among several end nodes (whether an IP address or not). Likewise, Huang does not teach the sharing of an IP address among multiple end nodes. Hence claim 21 should be allowed. Claims 22-27 depend from claim 21 and should therefore also be allowed.

New claim 28 includes a plurality of physical end nodes that share a first virtual Internet protocol address. For the same reasons as for claim 21, this claim is distinguishable over the cited references. Claim 29 is dependant on claim 28 so should also be allowed.

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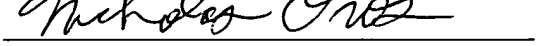
Accordingly, this application is believed to be in proper form for allowance and an early notice of allowance is respectfully requested.

Please charge any fees associated herewith, including extension of time fees, to Deposit Account No. 13-4772.

Respectfully submitted,

By: 
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